REMARKS

Following entry of the present reply, claims 1-20 will remain pending in the present application. Claims 2, 9-12 and 16-20 have been amended. Claim 21 has been added. No new matter has been added.

Applicant would like to thank the examiner for indicating that claims 9 and 15 are allowable. However, Applicant respectfully requests allowance of claims 1, 2, 12, 13 and 14, from which claims 9 and 15 depend.

Claim Objection

Claim 19 has been amended as requested by the examiner. Applicant thanks the examiner for pointing out this issue and respectfully requests withdrawal of the rejection of claim 19.

Rejections under 35 U.S.C. § 112

Independent claims 1, 10 and 12 stand rejected under 35 U.S.C. 112, second paragraph, allegedly as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is directed to a communication system for noise suppression. The office action alleges that it is unclear from the language of claim 1 how the communication system performs the claimed noise suppression. The Applicant respectfully disagrees.

Claim 1 includes a "first logic configured to combine a time series of input symbols, where the time series has size N and N is greater than one, into a block of N-symbol combinations." Claim 1 further comprises a "second logic configured to transmit each N-symbol combination, on one of the plurality of different channels, to a receiver." In other words, in claim 1, information is processed and transmitted. The processing and transmitting recited in claim 1 performs noise suppression. For example, in just one embodiment, a receiver may use the block of N-symbol combinations recited in claim 1 to suppress impulse noise. (*e.g.*, Specification at paragraphs [029], [032], and [050]-[053]).

Therefore, it is clear from the language of claim 1 that the communication system performs noise suppression. Because claims 10 and 12 include similar processing and transmitting elements as claim 1, Applicant respectfully asserts that it is clear from the language of claims 10 and 12 that the communication system performs noise suppression. Applicant respectfully requests withdrawal of the rejection of claims 1, 10 and 12.

Claims 2-9, 11 and 13-15 stand rejected under 35 U.S.C. 112, second paragraph, as depending on claims 1, 10 and 12 respectively. For the same reasons as discussed above with respect to claims 1, 10 and 12, Applicant respectfully requests withdrawal of the rejection of claims 2-9, 11 and 13-15.

Claims 17-20 stand rejected as containing a reference with an insufficient antecedent basis. The office action noted that the term "the system" in claims 17-20 did not have a sufficient antecedent basis. Claims 17-20 have been amended, changing the term "the system" to "the program." Applicant thanks the examiner for pointing out this issue and respectfully requests withdrawal of the rejection of claims 17-20.

Rejection under 35 U.S.C. § 102

Claims 1, 2, 3, 5, 10-13, 16-18 and 20 stand rejected under 35 U.S.C. 102(e) allegedly as being anticipated by U.S. patent 6,005,876 ("Cimini"). In particular, the office action alleges that Cimini combines input symbols into a number (N) of combinations, as recited in the claims. (Office Action dated June 13, 2007 at p. 4). The office action also asserts that Cimini transmits each of these combinations on a different channel. (*Id.*).

Applicant respectfully submits that Cimini nowhere teaches or suggests combining input symbols into a number of combinations. In addition, Cimini nowhere teaches or suggests transmitting each combination on a different channel.

In the claimed embodiments, ***each different channel redundantly transmits a number (N) of a complete set of symbols.*** In other words, each channel transmits an entire set of available symbols. For example, if there are 12 symbols, each symbol will be transmitted 12 times, and each set of 12 symbols will be transmitted on a different channel. By allowing such overlapping and redundant transmission of a desired symbol, the claims facilitate the suppression of the undesirable noise. Of course, this claimed feature naturally requires each symbol to be transmitted more than once.

Cimini, on the other hand, does not allow each symbol to be transmitted more than once. Quite the contrary, as cited by the office action itself, Cimini transmits each symbol only once. (Cimini at col. 4, ll. 13-14). Moreover, each of Cimini's single-transmitted symbol is directed to a single channel, depending on the number of available antennas. (*Id.* at col. 4, ll. 1-49). Cimini makes this clear by reciting that each antenna "transmit[s] a subset of the total number of tones." (*Id.* at col. 2, ll. 27-28, see also col. 4, ll. 40-45). Also, Cimini makes this clear by an example where 120 symbols are transmitted in four groups of 30. In other words, each symbol is transmitted once, and therefore only one complete set of symbols is transmitted. (*Id.*).

This distinction between the redundant transmission of a symbol in the present claims, and the non-redundant (or single) transmission of a symbol in Cimini is supported by the very different problems that are addressed by each. In particular, the claimed embodiments are directed to reducing the effects of impulse noise, and thus justify the redundant transmission of a symbol. By contrast, Cimini seeks to reduce the effects of noise that may persist at a certain frequency, and thus requires only a single transmission of a symbol.

Therefore, because Cimini neither discloses nor suggests combining input symbols into a number (N) of symbol combinations or transmitting each N-symbol combination on a different channel, Applicant respectfully requests withdrawal of the rejection of claims 1, 10, 12 and 16.

Inasmuch as claims 2, 3, 5, 11-13 and 17-18 all depend directly or indirectly from independent claims 1, 10, 12 or 16, the Applicant submits that that the dependent claims are patentable for the same reasons as described above for independent claims 1, 10, 12, and 16. Accordingly, the Applicant respectfully requests withdrawal of the rejection of claims 2, 3, 5, 11-13 and 17-18.

Rejections under 35 U.S.C. § 103

Claims 4, 6 and 19 stand rejected under 35 U.S.C. 103(a) allegedly as being obvious over Cimini in view of U.S. patent 5,291,298 ("Hulyalkar"). Also, claim 7 stands rejected under 35 U.S.C. 103(a) allegedly as being obvious over Cimini in view of U.S. patent 5,805,583 ("Rakib").

For the same reasons discussed above with respect to claims 1, 10, and 12, over Cimini, Applicant respectfully requests withdrawal of the rejection of claims 4, 6, 7 and 19.

Other Claim Amendments

Applicant has amended claims 1, 2, 7, 9, 10,-13 and 16-20 to further clarify the claimed embodiments. In addition, Applicant has removed limitations from claim 9 and placed the limitations in claim 21, which is a new claim.

CONCLUSION

For all the foregoing reasons, the Applicant respectfully submits that the present application is now in condition for allowance.

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